Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EIICHI YOSHIDA and AKIO NAKAJIMA

Appeal No. 2004-1634
Application No. 09/161,277[1]

ON BRIEF

Before BARRY, BLANKENSHIP and SAADAT, Administrative Patent Judges.
SAADAT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the Examiner's final rejection of claims 1-6, 9-13, 15 and 16. Claims 7, 8 and 14 have been canceled.

We affirm-in-part.

[1] Application for patent filed September 28, 1998, which claims the foreign filing priority benefit under 35 U.S.C. § 119 of Japanese Application No. 09-265620, filed September 30, 1997.

BACKGROUND

Appellants' invention is directed to image forming systems in which, even if the power to the printer is suddenly lost, the printer can be restored to its state before the power failure such that the print job processing is continued. According to Appellants, storing the print job processing status determines whether the data related to any jobs remaining to be printed need to be resent (specification, pages 3 & 4). An understanding of the invention can be derived from a reading of exemplary independent claims 1 and 16, which are reproduced bellow:

1. An image forming apparatus that performs printing based on data sent from an external terminal device via a network, comprising:

a non-volatile memory which stores print job processing status information of a plurality of print jobs;

determining means for determining, when the image forming apparatus has been restored to a normal state, whether any of the plurality of print jobs remain to be printed based on the print job processing status information stored in the non-volatile memory; and

resend request issuing means for requesting a terminal device that sent data of a respective print job to resend the data for each of the plurality of prints jobs that is determined remains to be printed.

16. An image forming apparatus that performs printing based on data sent from an external terminal device via a network, comprising:

a non-volatile memory which stores printing processing information of a plurality of print jobs, the printing processing information for each print job including job identification,

image data address, and job status indicating whether or not a print job has been printed;

a volatile memory which stores image data corresponding to each print job at the image data address specified by said non-volatile memory, said volatile memory subject to loss of all data when power is not supplied thereto;

determining means for determining when supply of power to the volatile memory has been interrupted, and when power has been restored to said volatile memory, determining whether there are any print jobs that have not been printed based on the job status information stored in the non-volatile memory;

resend request issuing means for requesting the terminal device that sent the image data of any print job that has not been printed to resend the image data for storing in the volatile memory; and

a controller which, when power is restored to said volatile memory after being interrupted and the determining means determines that there are any print jobs that have not been printed, clears the respective image data address in the non-volatile memory prior to the image data being resent by the corresponding terminal device.

The Examiner relies on the following prior art references:

Tamagaki	5,716,148	Feb. 10, 1998 (filed Dec. 29, 1995)
Bender et al. (Bender)	5,791,790	Aug. 11, 1998 (filed Mar. 13, 1996)

Claims 1-6, 9-13, 15 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tamagaki and Bender.

We make reference to the answer (Paper No. 16, mailed August 27, 2002) for the Examiner's reasoning and to the appeal brief (Paper No. 15, filed June 3, 2002) for Appellants' arguments thereagainst.

OPINION

Appellants argue that because Bender teaches storing all the print job data in a non-volatile memory as the only use of a non-volatile memory (brief, page 5), its combination with Tamagaki leaves no need for issuing a resend request to the host computer (brief, page 6). Appellants further point out that given such disclosure, one of ordinary skill in the art would have used the non-volatile memory of Bender to store all the print job data (id.). Thus, Appellants conclude that modifying Tamagaki with the teachings of Bender would negate the need for a resend request since none of the print data will be lost if power is turned off (id.). Additionally, Appellants argue that the resend request of Tamagaki relates to the data of only one job whereas the claims require processing of a plurality of print jobs (brief, page 9).

In response to Appellants' arguments, the Examiner relies on a dictionary definition[2] of "nonvolatile memory" as a "battery-backed CMOS RAM" and asserts that the combination of the back-up power source 66 attached to the back-up storage section 65 of Tamagaki could be considered a non-volatile memory (answer, page

[2] Microsoft Press Computer Dictionary, Third Edition, page 332, 1997 (A copy of the definition from the Second Edition, page 271, 1994 accompanies this decision).

10). The Examiner further points out that since Tamagaki does back-up the status information of the print job for recovering the print job after a power failure, it would have been obvious to use the non-volatile memory of Bender in order to eliminate the need for the back-up power source (answer, page 12). The Examiner further relies on Figures 4, 6 and 11 of Tamagaki and argues that the request for resend does relate to more than one print job as the print job status information includes host identification code, data identification code and information on pages to be sent (answer, pages 12 & 13).

The initial burden of establishing reasons for unpatentability rests on the Examiner. In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). The Examiner is expected to make the factual determination supported by teachings in a prior art reference or shown to be common knowledge of unquestionable demonstration, consistent with the holding in set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). When an obviousness determination relies on the combination of two or more references, there must be some suggestion or motivation to combine the references. See In re Rouffet, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998). A motivation to combine prior art references may be

found in the nature of the problem to be solved. Ruiz v. A.B. Chance Co., 357 F.3d 1270, 1276, 69 USPQ2d 1686,1690 (Fed. Cir. 2004). Also, evidence of a suggestion, teaching, or motivation to modify a reference may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, see Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996).

From our review of Tamagaki and Bender, we remain unpersuaded by Appellants' arguments of any error in the Examiner's determination regarding the obviousness of the claimed subject matter has occurred. Both references are concerned with recovering the print job data in case of power failure. Tamagaki stores the print job status information in back-up storage section 65 (col. 10, lines 46-49) while back-up power source 66 allows the status information stored in memory 65 to be retained during power failure (col. 9, lines 18-38). Bender, similarly stores the print data during power failure such that the printing process may be resumed after the power is restored. Although Bender stores all the print data for a complete recovery of the print data, the use of a non-volatile memory clearly provides the advantage of using such storage device during power failure whereby the necessary data may be recovered after the power is

restored. Thus, as stated by the Examiner (answer, page 12), the advantages described by Bender would have motivated one of ordinary skill in the art to use a non-volatile memory instead of the battery-backed memory of Tamagaki in order to store the status information without any need for back-up power.

We also remain unconvinced by Appellants (brief, page 6) that modifying Tamagaki to provide a non-volatile memory would have required receiving all the print job data and therefore, would have been contrary to the reference teachings related to the need for a resend request signal. In that regard, the use of a non-volatile memory, no matter what kind of data is to be stored therein, is taught by Bender as a storage device during power failure. The fact that Bender stores the entire print data as well as a "Header File" containing the status information about the print job (col. 4, lines 64-66) does not preclude using such non-volatile memories in the printing apparatus of Tamagaki. In that regard, Tamagaki would have stored the print job status information in a non-volatile memory instead of a battery-backed memory for preserving the print information during power failure. The Examiner's interpretation of the battery-backed memory of Tamagaki as a non-volatile memory notwithstanding, we find that Tamagaki may also be properly modified by using the non-volatile memory of Bender.

Additionally, based on the portions of the prior art relied upon by the Examiner, we disagree with Appellants that the print job processing status information and resend request of Tamagaki relates to the data of only one job. Tamagaki not only relates to multiple hosts connected to a printer network but also requires that the information related to the host, data and pages to be sent again be provided (col. 10, line 61 through col. 11, line 2). The fact that Tamagaki uses more than mere page information to issue a resend request and to differentiate between different hosts and data indicates the presence of a plurality of different print jobs. Therefore, as the Examiner has established a prima facie case of obviousness with respect to claim 1, we sustain the 35 U.S.C. § 103(a) rejection of claim 1, as well as claims 2-6, 9-13 and 15, grouped therewith as falling together (brief, page 5) over Tamagaki and Bender.

Turning now to the rejection of claim 16, we note Appellants' arguments with respect to the claimed controller which "clears the respective image data address in the non-volatile memory before the image data is resent (brief, pages 8 & 9). The Examiner's only discussion (answer, page 8) of the controller in claim 16 relies on Tamagaki's request for sending any print jobs that have not been printed (col. 12, line 63 through col. 13, line 4). However, there is nothing in the cited

portions of Tamagaki indicating that the image data address is necessarily cleared before the resend request is issued. Therefore, the 35 U.S.C. § 103 rejection of claim 16 over Tamagaki and Bender cannot be sustained.

CONCLUSION

In view of the foregoing, the decision of the Examiner rejecting claims 1-6, 9-13 and 15 under 35 U.S.C. § 103 is affirmed but is reversed with respect to claim 16.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

LANCE LEONARD BARRY
Administrative Patent Judge)

HOWARD B. BLANKENSHIP
Administrative Patent Judge) BOARD OF PATENT APPEALS AND INTERFERENCES

MAHSHID D. SAADAT
Administrative Patent Judge)

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McDermott, Will & Emery, LLP
600 13th Street, NW
Washington, DC 20005-3096